



# **USEPA Meeting to Discuss the Source of DNAPL in Fields Brook**

February 8, 2006

# Overview of Presentation Information

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- Summary of Historical DNAPL Investigations
- DNAPL Issues in EU 8
- DNAPL Issues in EU 6
- DNAPL Issues in DS Tributary
- Path Forward

## Summary of Historical Information

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- RI/FS 1995
- DNAPL Pilot Test 1997
- 60 % Design Investigation 1999
- Remedy Construction 2000
- FBAG Investigation 8/2005
- Detrex Investigation 9/2005
- Detrex RD/RA Work Plan 10/2005
- Additional Groundwater Sampling 1/2006

## DNAPL Issues in EU 8

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- FBAG Investigation identified DNAPL in trenches and elevated headspace in floodplain north of Fields Brook ( 8/05 )
- VOCs, heavy metals and PCBs detected in waste characterization samples from soil in drums ( 6/05 )
- Potential pathways identified by FBAG include :
  - Erosional channels in clay, till contact, former Detrex outfall

## DNAPL Issues in EU 8

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- Potential FBAG pathways not confirmed based on :
  - FBAG borings in upland areas did not have elevated headspace readings, most ND ( 8/05 )
  - FBAG trench along Detrex property did not show evidence of DNAPL ( 8/05 )
  - FBAG/Detrex borings in floodplain near stormwater pond did not show evidence of DNAPL

## DNAPL Issues in EU 8 continued

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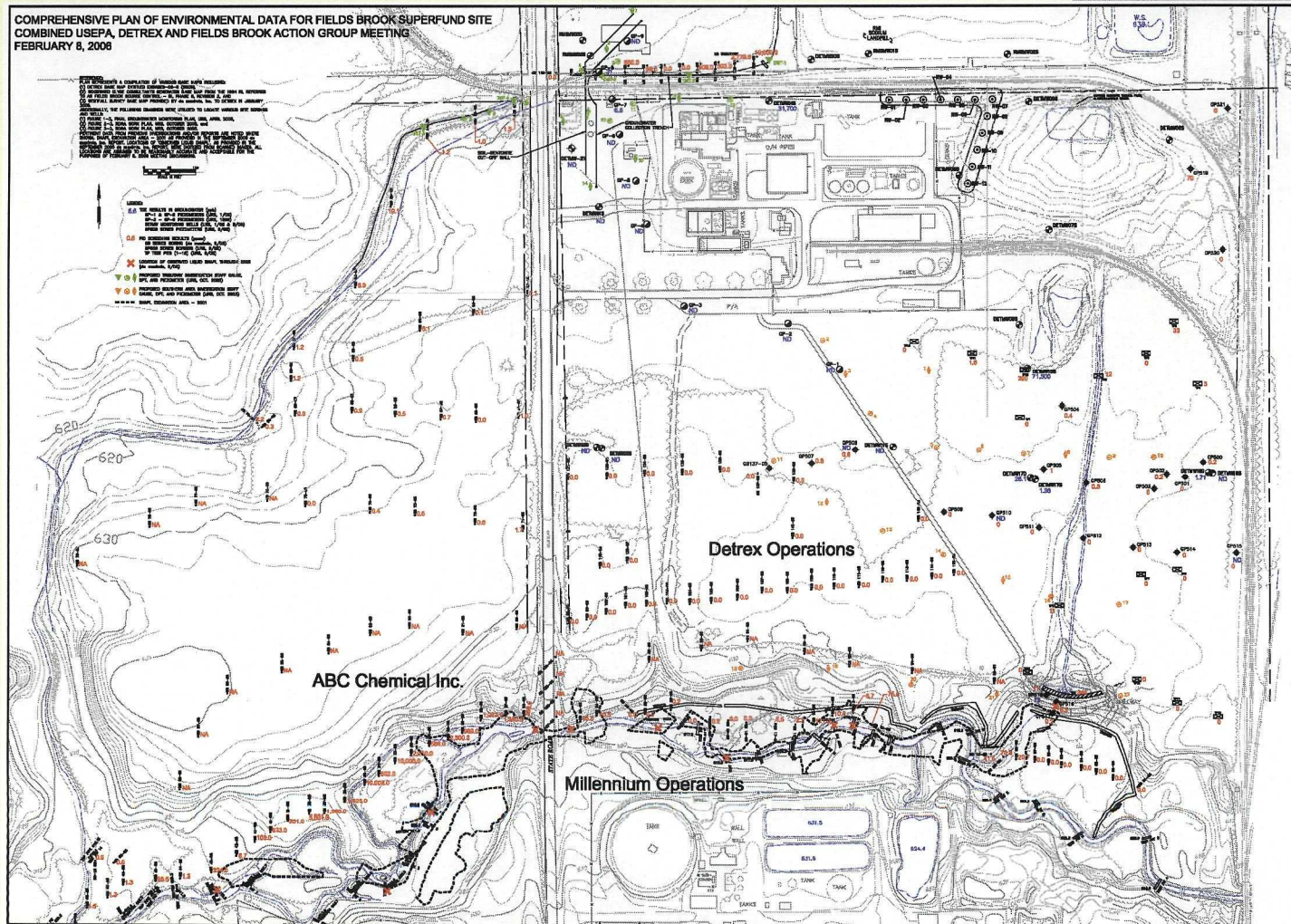
- Potential FBAG pathways not confirmed based on :
  - RI/FS borings between former lagoons and Fields Brook did not have DNAPL ( 9/05, 1/06 )
  - 60 % Design borings between former lagoons and Fields Brook did not have DNAPL ( 6/99, 1/06 )
  - Detrex borings/test pits between former lagoons and Fields Brook did not have DNAPL ( 9/05, 1/06 )
  - RD/RA Work Plan submitted to USEPA ( 10/05 ) to evaluate the area between sources and Fields Brook

## **DNAPL Issues in EU 8**

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- Site Wide Summary Map
- Data Summary Tables  
Groundwater results

# Site Wide Summary Map



# Table 1-A March and April Data

## RD/RA Monitoring Well Program

*Detrex Ashtabula, OH DNAPL Well VOC Analyses*

Date Sampled	March 18, 2005	April 22, 2005	March 31, 2005	March 31, 2005	April 22, 2005
Well Number	MW-21	MW-02S	MW-04S	MW-17S	MW-18S
VOC					
1,1,1-Trichloroethane, ug/l	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane, ug/l	ND	ND	ND	ND	ND
1,1,2-Trichloroethane, ug/l	ND	ND	21.1	ND	ND
1,1-Dichloroethene, ug/l	ND	ND	1,030	ND	ND
1,3-Dichlorobenzene, ug/l	ND	ND	ND	ND	ND
Choroform, ug/l	ND	ND	ND	ND	ND
Methylene Chloride, ug/l	ND	ND	ND	ND	ND
Trichloroethene, ug/l	ND	ND	26,300	ND	ND

## Table 1-B June Data

### RD/RA Monitoring Well Program

#### *Detrex Ashtabula, OH DNAPL Well VOC Analyses*

Date Sampled	June 15, 2005	June 15, 2005	June 15, 2005	June 15, 2005	July 8, 2005	June 15, 2005
Well Number	MW-21	MW-02S	MW-04S	MW-17S	MW-17S	MW-18S
VOC						
1,1,1-Trichloroethane, ug/l	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane, ug/l	ND	ND	ND	1.39*	1.39*	ND
1,1,2-Trichloroethane, ug/l	ND	ND	40.8	ND	ND	ND
1,1-Dichloroethene, ug/l	ND	ND	912	ND	ND	ND
1,3-Dichlorobenzene, ug/l	ND	ND	ND	ND	ND	ND
Choroform, ug/l	ND	ND	ND	ND	ND	ND
Methylene Chloride, ug/l	ND	ND	2.51	ND	ND	ND
Trichloroethene, ug/l	ND	ND	27,100	1.6*	1.26*	ND
*Well 17S is suspected of being contaminated by the oil/water phase sample tape.						

# Table 1-C September Data

## RD/RA Monitoring Well Program

### *Detrex Ashtabula, OH DNAPL Well VOC Analyses*

Date Sampled	09/29/05	09/29/05	09/29/05	09/29/05	09/29/05	09/29/05
Well Number	MW-21	MW-02S	MW-04S	MW-10	MW-17S	MW-18S
VOC						
1,1,1-Trichloroethane, ug/l	ND	ND	ND	15	ND	ND
1,1,2,2-Tetrachloroethane, ug/l	ND	ND	ND	1190	ND	ND
1,1,2-Trichloroethane, ug/l	ND	ND	29.3	24.9	ND	ND
1,1-Dichloroethene, ug/l	ND	ND	753	237	ND	ND
1,3-Dichlorobenzene, ug/l	ND	ND	ND	2.07	ND	ND
Choroform, ug/l	ND	ND	ND	199	ND	ND
Methylene Chloride, ug/l	ND	ND	2.57	6.44	ND	ND
Trichloroethene, ug/l	ND	ND	31,700	71,500	1.38*	ND
*Well 17S is suspected of being contaminated by the oil/water phase sample tape.						

# Additional Monitoring Well Sampling

## *Detrex Ashtabula, OH DNAPL Well VOC Analyses*

Date Sampled	01/10/06	01/10/06	01/10/06	01/10/06	01/10/06	01/10/06
Well Number	DETMW-URS-1 (GP-2)	DETMW-URS-2 (GP-1)	DETMW-URS-02D	DETMW-URS-17D	DETMW-URS-18D	DETMW-URS-11S
VOC						
1,1,1-Trichloroethane, ug/l	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane, ug/l	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane, ug/l	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene, ug/l	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene, ug/l	ND	ND	ND	ND	ND	ND
Choroform, ug/l	ND	ND	ND	ND	ND	ND
Methylene Chloride, ug/l	ND	ND	ND	ND	ND	ND
Trichloroethene, ug/l	ND	ND	ND	26.1*	1.71*	ND

\*Wells 17D and 18D are suspected of being contaminated by the oil/water phase sample tape.

## DNAPL Issues in EU 8

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- Overview of conditions
  - Limited and sporadic headspace readings occur in most floodplain borings from State Road to Detrex stormwater pond ( FBAG 8/05 )
    - PID headspace detection pattern in floodplain does not suggest a source from upland areas on Detrex Property
    - PID headspace screening and groundwater analytical results in borings/monitoring wells are ND or very low in upland area between former lagoons and Fields Brook

## DNAPL Issues in EU 6

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- FBAG Investigation identified DNAPL in trenches on both sides of Fields Brook and elevated headspace in floodplain north of Fields Brook ( 8/05 )
- FBAG identified DNAPL near former North Sewer outfall ( 8/05 )
- Potential pathways identified by FBAG for EU 6 include :
  - Erosional channel in lacustrine clay beneath State Road to North Sewer

## DNAPL Issues in EU 6

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- Potential FBAG pathways not confirmed based on :
  - FBAG borings in upland areas did not have elevated headspace readings ( 8/05 )
  - RI/FS borings and monitoring wells on southwest side of Detrex property did not have DNAPL ( 9/05 , 1/06 )
  - Detrex borings between former lagoons and EU 6 did not have DNAPL ( 9/05 )
  - Construction of Detrex new outfall trench in 2000 from facility to Fields Brook did not observe soil vapors or DNAPL during excavation

## DNAPL Issues in EU 6

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- Overview of conditions
  - Elevated headspace readings occur in most borings from State Road west
    - Contiguous headspace detection pattern in floodplain suggests residual source in non-excavated areas in floodplain ( Highest readings obtained in EU 6, 10,000 ppmv )
    - PID screening and groundwater analytical results are ND in upland areas between EU 6 and onsite source area

## DNAPL Issues in DS Tributary

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- FBAG investigation identified elevated headspace readings north of DS
- Potential pathways identified by FBAG include :
  - subsurface DNAPL

## **DNAPL Issues in DS Tributary**

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- RD/ RA Work Plan submitted to USEPA proposed investigation program to evaluate DS Tributary ( 10/2005 )

## Path Forward

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- Implement RDRA Work Plan to verify pathways in soil/till and finalize plans for proposed cutoff trench ( if needed )